INDONESIAN LIVING STANDARDS THREE YEARS AFTER THE CRISIS:
EVIDENCE FROM THE INDONESIA FAMILY LIFE SURVEY

EXECUTIVE SUMMARY

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The economic and financial crisis in Indonesia

The Asian financial crisis in 1997 and 1998 was a serious blow to what had been a thirty year period of rapid growth in east and southeast Asia. During this period before this crisis, massive improvements occurred in many dimensions of the living standards of these populations. In Indonesia, real percapita GDP rose four-fold between 1965 and 1995, with an annual growth rate averaging 4.5% until the 1990s, when it rose to almost 5.5%. The official government poverty headcount rate declined from over 40% in 1976 to just under 18% by 1996. Infant mortality fell from 118 per thousand live births in 1970 to 46 by 1997. Primary school enrollments rose from 75% in 1970 to universal enrollment by 1995 and secondary enrollment rates from 13% to 55% over the same period. The total fertility rate fell from 5.6 in 1971 to 2.8 in 1997.

In April 1997 the economic crisis began to be felt in the southeast Asia region, although the major impact did not hit Indonesia until December 1997 and January 1998. Real GDP declined 12-14% in 1998, stayed constant in 1999 and finally began growing in 2000, by 4.5%. Different sectors of the economy were affected quite differently. Macroeconomic data from the Statistics Indonesia (BPS) show that the decline in GDP in 1998 hit investment levels very hard. Real gross domestic fixed investment fell in 1998 by 35.5%. For the household sector, much of the impact was due to rapid and large swings in prices which largely resulted from exchange rate volatility. Figure 1 shows the movement of the monthly rupiah-US dollar exchange rate over this period. One can see a depreciation of the rupiah starting in August, but with a massive decline starting in January 1998 and appreciating substantially after September 1998, but slowly depreciating once again starting at the end of 1999 and through 2000.

The exchange rate depreciation was a key part of the crisis because the relative prices of tradable goods increased, especially foodstuffs. Starting in January 1998 and continuing through March 1999, nominal food prices exploded, going up three-fold, with most of the increase coming by September 1998. While non-food prices also increased, there was a sharp rise in the relative price of food through early 1999. Arguably any major impact during this period felt by Indonesians, except those at the top of the

income distribution, occurred because of the massive increase in food prices. The food share (excluding tobacco and alcohol) of the typical Indonesian's household budget is approximately 50% in urban areas and 57% in rural. Among the poor, of course, food shares are even higher.

The large increases in relative food prices by itself resulted in a fall of real incomes for net food purchasers (most of the Indonesian population), while net food producers were helped. Of course there were many other changes that occurred during the crisis period, which had additional, sometimes differing impacts, on household welfare. For instance nominal wages also rose during this period. This ameliorated the impact of food price increases for those who rely on market wages, but only very slightly since the increase in nominal wages was considerably less than the increases in food and nonfood prices. Hence real wages declined. With these kinds of economic shocks, one would expect to find serious welfare consequences on individuals.

Within the household sector, it is likely that different groups of people were affected rather differently. For instance, farmers who are net sellers of foodstuffs may have seen their real incomes rise over this period. Furthermore, in late 1997 and early 1998 there was a serious rural crisis caused by a major drought, especially in the eastern parts of Indonesia. The 1997/98 drought helped to push up rice prices during that period over and above that due to the exchange rate changes. As a result, compared to 1997, farmers in 2000, especially in eastern provinces, may have had increased crop yields and profits. In addition, during this same period, in late 1997 and early 1998, there were serious forest fires throughout much of southeast Asia, which led to serious smoke pollution in many areas, in turn which may have led to serious health problems and decreases in productivity.

In this report, we use Indonesia Family Life Surveys (IFLS) to examine different dimensions of the welfare of Indonesians during the crisis. IFLS is a panel survey of households and communities in 13 provinces of Indonesia.[1] In 1993, the first wave of IFLS randomly chose 321 communities in the 13 provinces and randomly sampled some 7,200 households within those communities. In IFLS2 and IFLS3

a 94% follow-up rate was achieved, in part by following households when they moved to one of 13 provinces covered by IFLS, which greatly mitigates potential concern with sample attrition.

Waves of IFLS span the period of the 1998 crisis, as shown in Figure 1. The second wave of the survey, IFLS2, was fielded in late 1997 and the third wave, IFLS3, in late 2000. IFLS allows a comprehensive examination of individual, household and community welfare. Data are gathered on household expenditures, allowing one to examine what happened to real expenditures and to poverty. IFLS also contains information on many other topics that are of central interest in the assessment of welfare changes. There is an especially rich set of data regarding wages, employment and health; also detailed information is collected pertaining to schooling, family planning, and receipt of JPS and other social safety-net programs. In addition, IFLS includes data collected at the community level and from health facilities and schools, so that we can also track the availability and quality of services, both publicly and privately provided. Related to this, we have in 2000 some baseline information regarding decentralization. Moreover, since IFLS is a panel survey it is possible to analyze changes for specific communities, households and individuals. With these data one has the unique opportunity to investigate the medium-term impacts of the crisis on poverty levels and transitions, health outcomes and other measures of welfare.

The sections of the report are broadly as follows. We show what happened to the levels of real household percapita expenditure and poverty rates between 1997 and 2000. We also discuss results for subjective measures of welfare reported by adults, comparing their well-being currently (in 2000) and before the crisis. Our results on labor outcomes explore changes in employment rates and wages, including transitions across sectors of employment. We also present evidence on the incidence of child labor. We then begin an analysis of a series of important non-income measures of welfare by examining child school enrollments in 1997 and 2000 and the quality and cost of schooling services offered. The next section provides details of different dimensions of child and adult health outcomes and utilization

[1] The provinces are: North Sumatra, West Sumatra, South Sumatra, Lampung, Jakarta, West Java, Central Java,

over this period. We then provide a complementary perspective from the point of view of health facilities by examining changes in availability, quality and cost of services offered. We go on to examine family planning usage by couples and services offered at the community level. We next turn our attention to the set of special safety net programs (JPS) established by the central government after the crisis began. We present evidence regarding the prevalence and targeting efficiency among communities, households and individuals. Finally, we present baseline evidence regarding the new decentralization programs, focusing on how much budgetary and decision-making control was exercised by local governments and facilities over their programs and policies at the time IFLS3 was fielded in the second half of 2000.

Poverty and percapita expenditures

Over the three year period from late 1997 to late 2000, poverty rates declined slightly but not significantly from 17.4% to 15.5% (Figure 2), although there are differences across provinces and between rural and urban areas.[2] Considering the large and significant increase in poverty to 27% that occurred between 1997 and late 1998, this finding suggests a marked recovery in poverty since then. Large increases in relative rice prices played a large role in inducing the increase from 1997 to 1998, and declines afterwards helped to spawn the later decline in poverty rates. The fact that budget shares of rice among the poor are large, around 20%, is a major reason for this.

Corresponding to the movements in poverty, real incomes (we use real percapita expenditure, or *pce*, as our measure of income) rose for much of the population but not significantly (Figure 3). Median incomes rose by about 6% nationally. Among the poor, median *pce* went up 4% and, for the non-poor, it rose by 3.7%.[3] This increase in median *pce* occurred in both urban and rural areas. Mean *pce*, however, moved very differently. Overall, mean *pce* fell 10% from 1997 to 2000. Among the poor, mean *pce* actually rose, similar to the median, but among the non-poor it fell, by nearly 13%. In urban areas mean incomes of the non-poor fell by even more, 20%. The different movements in mean and median *pce* for

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Yogyakarta, East Java, Bali, West Nusa Tenggara, South Kalimantan, and South Sulawesi.

[2] Asterisks in the figures indicate statistical significance of the *changes* between 1997 and 2000 at the 5% and 1% levels.

these different groups occurred because it was the top of the income distribution that had the largest percent decline in *pce*, while for lower and middle income Indonesians, we find an increase in *pce* from 1997 to 2000.

Using the panel aspect of IFLS, we can examine the change in poverty status of households and individuals therein between 1997 and 2000. Among individuals interviewed in both years, we find considerable movement into and out of poverty. Figure 4 shows that over half of those in poverty in 1997 are not in 2000 and over half of those in poverty in 2000 were not in 1997. This is a large movement into and out of poverty which is consistent with what is observed in many other low income economies. If we look at *pce* changes by *pce* in 1997, we find a consistent pattern. Those with low incomes in 1997 were likely to have had their *pce* rise by 2000, while those with higher *pce* in 1997 were more likely to suffer a fall by 2000.

We examine the correlates of poverty and income levels and changes. Consistent with what is universally found, we find that education is significantly correlated with *pce* and, thus, being out of poverty. We also find that higher education is associated with moving out of poverty from 1997 to 2000 and with staying out of poverty in both years. Living in a rural area is a correlate of higher poverty, as in most low income economies, although interestingly, it is not related to movements into and out of poverty.

We supplement our quantification of poverty and income with data on subjective evaluations of welfare. They provide a consistent picture with that of *pce* in that the two measures are positively correlated. In addition, a person who was low in their self-ranking in 1997 was more likely to say their ranking improved in 2000 than to say it worsened. Conversely for those who said they were better off in 1997, it is much more likely that their self-assessed situation worsened in 2000 rather than improved.

Employment and wages

[3] Tests of shifts in the distributions of *pce* between 1997 and 2000 (first order stochastic dominance) find significant differences for *pce* in the lower and middle part of the distribution.

Between 1997 and 200 we find some significant changes in labor market outcomes among adults interviewed in IFLS. Figure 5 shows that employment rates rose slightly for men between 1997 and 2000 (from 79% to 84%), but that women had a much larger rise, from 45.% to 57%. About half of the rise for both men and women was in paid work and the other half as unpaid family workers in family businesses. As a fraction of overall employment, unpaid work in family businesses increased dramatically among women to 25%. In addition, there was a rise for both men and women in the fraction that had a second or third job, to almost 25% of men and 10% of women. However, total hours worked on all jobs did not change significantly

Other studies have shown that between 1997 and 1998 there was a dramatic fall in wages, of up to 35% in urban areas. Figure 6 demonstrates what happened to median wages by sector by 2000. There is a distinct difference in the pattern by sector. Wages among private sector employees are still 10% below their level in 1997. Among government employees, however, wages increased by roughly 10% over 1997 levels. Among the self-employed, wages rebounded to their 1997 levels in urban areas and grew by nearly 12% over 1997 levels in rural areas.

Among children aged 10-14, the employment rate was 14.5% in 2000. Most of this entails working is for family businesses, especially farm work in rural areas. We find no difference in employment rates between boys and girls and low household income is not correlated with child labor. Among those 10-14 who work, hours working average about 20 hours per week. Yet even for those who work, the main activity listed for most is attending school, so that work and school are not mutually exclusive activities.

Education

Studies of the initial impact of the crisis showed some decline in enrollment rates among poor children. The concern that the crisis would lead to declines in enrollment rates after 1998 is one that is not borne out by IFLS and other data. Figure 7 shows that enrollment rates of primary school-aged children are slightly higher in 2000 than 1997, although the increase is not significant. However, this group average masks some important differences among sub-groups. For poor children 7-12 years, we do

observe a significant increase in enrollment rates from 1997 to 2000, to 94%. Among junior secondary school-aged children the enrollment rates are about the same in the two years, at 76-80%, as are the rates for senior secondary-aged children (about 48%).

Using data from IFLS school interviews, we find that there were few changes in school characteristics between 1997 and 2000. One change of note was a decline in the proportion of public schools that charge official entrance fees. Private schools are more likely to charge fees than are public schools, which is consistent with the observation that certain dimensions of quality, such as student-teacher ratios, are also better in private schools (mainly at the secondary levels).

Health outcomes

Looking at the broad picture of levels of child health and changes between 1997 and 2000, the results are nuanced rather than straightforward (Figure 8). Height-for-age is often considered the most important summary measure of child health. The fraction of preschool-aged children who have very low heights for their age and sex dropped between 1997 and 2000, from 43% to 33% for boys and 40% to 33% for girls. This is a very favorable development. However, even with the decline in the incidence of stunting, the levels are still very high by international standards, being comparable to many sub-Saharan African countries. Weight-for-height, which can respond more quickly to economic dislocations and can also rebound quickly, showed essentially no change between 1997 and 2000. However, on a negative note, the fraction of boys 12-59 months with blood hemoglobin levels less than threshold levels (considered bad for health) increased significantly from 52% to 57%.

As with children, the picture of changes in adult health between 1997 and 2000 is mixed. The fraction with low body mass index (BMI), related to undernutrition, did not worsen between 1997 and 2000. Given other evidence that the BMIs of the elderly declined significantly between 1997 and 1998, this indicates a recovery by 2000 by this sub-group.

While health analysts typically focus on problems of undernutrition in developing economies and those problems do indeed exist in Indonesia, problems of overnutrition and health risks from behavioral

factors usually associated with industrial countries are also a problem. Figure 9 shows that levels are high for 3 risk factors underlying cardiovascular disease: overweight, high blood pressure and smoking. Overweight and high blood pressure seem to be more of a problem for women, especially high blood pressure, while smoking is predominately observed among men. We find that overweight among women 40 years and older is 26% in 2000 (for women aged 40-59 it is 30%), with male rates half that. Rates of Stage 1 hypertension for systolic blood pressure are 33% for men over 40 and 40% for women over 40. Moreover, these rates rise with age and are over 50% for men over 60 years and 60% for women over 60. Over 70% of men aged 20 and older currently smoke cigarettes, on average 1 pack of 12 clove cigarettes daily. For women over 20, smoking rates are only 5%. There is weak evidence that between 1997 and 2000 the incidence of overweight increased among prime-aged women and the rate of smoking increased for teenage boys. We find evidence that the age at which men begin smoking has been declining.

For some aspects such as being overweight and smoking, it appears that levels rise with higher incomes. On the other hand, as education levels increase to completed secondary school or more some risky behaviors are moderated, such as being overweight in the case of women or smoking in the case of men.

Health care utilization and facility quality

For adults, little change has occurred in health care utilization between 1997 and 2000, while for young children, there has been a sharp decline in the usage of posyandu services in the last one month from 52% to 40% for both boys and girls (Figure 10). Use of puskesmas services did not change much, staying constant at 10% for children under 5 years and at 5% for older children. There has also been a small increase in child use of private and village midwives to about 10%. There is a significant increase in total immunization coverage between 1997 and 2000 (Figure 11). In 2000 about 53% of children had a complete set of immunizations. The major increases have come in hepatitis B vaccinations. On the other

hand, there has been a significant decline in the in the receipt of vitamin A pills, from 68% to 55%, perhaps because the posyandu had played an important role in its distribution.

In this overview report we do not connect use of health services directly with health outcomes, but it is quite interesting to note that a major indicator of child health, height, improved over this period, while posyandu use was declining so dramatically. The declines in preschool child hemoglobin levels are probably not a result of declining posyandu use where disease and diet are much more likely candidates, except perhaps through receiving less nutrition and health information. This is suggestive that posyandus have not been very effective in improving child health outcomes, although more analytical research is needed to rigorously establish that.

Turning to service delivery, using the IFLS facility survey, we examine changes that have occurred in the availability and quality of services offered at health care facilities. Between 1997 and 2000 there have been some small improvements in the quality of services at puskesmas', for instance in the availability of vaccines, antibiotics, and some equipment. Health service prices at puskesmas and pustu remain quite low compared to the private sector. In the private sector, few changes have been observed. There has been a decline in the fraction of providers who supply vaccines, but among those that do, fewer stock outages are observed in 2000 compared to 1997. Stock outages have also declined in both private and public sectors for drug supply, although the welfare interpretation of that fact is unclear. In general, the provision of tests and services by puskesmas is higher than by private doctors, clinics, paramedics or midwives.

Posyandu quality has dropped considerably, which is consistent with the large decline in use (although the analysis of this direct connection has not been done yet) . This is perhaps alarming since there does exist a posyandu revitalization program, under which funds are available from the central government.

Family planning

Figure 12 shows that between 1997 and 2000 there has been very little change in use of modern contraceptives, overall and by type, among married women in the IFLS sample, contrary to the expectations of some. On the other hand, usage has been flat over this period, not rising as it had been in earlier years. 55% of currently married women aged 15-49 reported currently using a modern method, with injectables (24%) and pills (14%) having the highest use. However, as can be seen in Figure 13, there has been a large decline in the fraction of women who get their supplies of pills and injectables from puskesmas and posyandu, and a corresponding increase in the use of private providers(pharmacies for pills and private midwives for injectables). Part of the switch in providers may stem from a convergence in relative prices charged which is observed.

The facility data generally confirm the picture from the individual-use data. Family planning service availability has tended to decline in puskesmas and especially in posyandu, except for counseling and treatment of side effects. This decline may have helped to cause the shift in source of supplies, or may simply reflect that shift; from these results it is not possible to distinguish between these two alternatives.

Social Safety Net Programs

Using data from IFLS, we explore the incidence, magnitude and targeting of assistance from a variety of social safety net programs(JPS) most of which were implemented or broadened in 1998. We assess the programs in the context of the stated program goals where possible, but also more broadly, in terms of how well they address the short-term problems caused by the crisis. In this report, we do not attempt any causal analyses of possible program impacts on welfare outcomes.

As argued, a major cause of the dislocations to the poor during this crisis was the sharply rising relative food prices, especially for rice. This suggests that a potentially effective way for a safety net program to get income supplements to the poor would be through targeted rice subsidies. In fact this was part of the JPS response: the OPK rice subsidy program. However the JPS programs were far broader than the rice subsidy, including a public employment program, a rotating credit program, a health subsidy

program and a school scholarship program. It is not clear that this set of programs represented the best mix for the 1998 crisis or for potential future ones; some of these were probably not a very good use of resources in 1998. Of course it is much easier in hindsight to make this point. For example, high unemployment was not a major problem during the 1998 crisis. Falling wages were a major issues, but wages (in real terms) fell largely due to rising food prices. Access to credit may have been a problem for some, but it is not clear that the poor fared so much worse during the crisis as before with regards to credit. In fact for most communities, neither the public employment nor the credit program were operational by 2000, whereas they were in 1998.

In the OPK rice program, 57% of the poor received some subsidized rice during the 12 months prior to the 2000 interview (Figure 14). On the one hand, while there was targeting of this program, a large fraction of the poor received no OPK rice and many non-poor were recipients. Further, the amount of rice given to the targeted households was very low, 5-6 kilograms per household per month, so that the value of the subsidy was correspondingly low (Figure 15). Even among the poor, the value of the subsidy represented only 0.66% of *pce* averaged over all poor households, and only 2% among those poor households that received some OPK rice in the last month.

The public employment (Padat Karya) program has been discontinued in most communities. One potential problem observed with this program was that mean wage rates were quite high relative to the market. The mean wage paid in 2000 was at the 40^{th} percentile of the private sector wage distribution. This is probably far too high to serve as a screening device to attract only the poor into the program.

The prevalence of the credit program (PDMDKE) among communities also declined substantially over the three-year period 1998-2000. There are also indications that the amount of revolving funds available decline within the communities that kept the program.

The scholarship and school fund assistance program has reached almost every school in the IFLS3 sample. The JPS scholarship program is more prevalent than any other scholarship program. The student coverage is just over 10% among poor junior secondary students (Figure 16) which is close to the program's target coverage rate. Poor students are more likely to receive scholarships than non-poor

students, but among the poor overall (whether or not a child is a student), poor children are no more likely to receive these scholarships than non-poor children. This result stems from children of the poor being less likely to be enrolled in school. The program is designed to target students, not the general child population. This raises the question of the effectiveness of this safety net program if the main goal is to provide short-term income assistance to those poor dislocated by the crisis. On the other hand, scholarships to the poor may make sense as a long-run program, if it can be shown that it raises the school completion rates of poor children.

The prevalence of health cards (Kartu Sehat) is almost universal among IFLS3 communities. Among individuals, just under 20% have cards and the percentage is a little higher among the poor, 25% (Figure 14). A beneficiary or holder of a health card could obtain most of the services available in public as well private health facilities. However, its utilization in the private facilities is much lower than in public health centers.

Decentralization

After more than thirty years living under a highly centralized state, since 1st January, 2001 the government of Indonesia began a process of radically transforming itself into a very decentralized state. Law No.22/1999 and Law No.25/1999 gave district governments more discretionary power and better access to sources of revenues. Under the Law No.22/1999, the central government has delegated most of its discretionary power, except on justice, monetary, law, defense, and religious affairs, to district governments. Government employees who had been working locally for the central government have now been put under district jurisdiction. This new system of government provides provincial governments unclear and limited roles such as the management of issues related to cross-district affairs.

Since IFLS3 was fielded just before the decentralization law went into effect, it is interesting to present the practice of decision-making on various matters related to health and educational services at that time, which will serve as a baseline for later comparisons. IFLS3 contains a limited amount of information on village and facility budgets, budgetary discretion at the local level, and on the degree to which puskesmas, pustu and school staff could make decisions on specific matters. On the other hand,

IFLS does not collect information at the district level, which limits its use to assess decentralization issues.

Examining the village budget in recent years, one can see the crisis impact; budgets were cut by 30% or more in 1998/99 with a substantial but incomplete recovery in 1999/2000. Rural percapita village budgets were significantly higher than urban budgets . Turning to the sources of village budget revenues, the village was the main source, accounting for almost 50% of budgets in rural communities and 30% in urban ones. There was an increase in the share coming from local sources in the 1998/1999 budget year, presumably because less money was available from central and provincial government sources due to the crisis. In urban areas the central and provincial governments had a nearly equal role in supporting local budgets, with the role of the central government having become marginally more important over the crisis period. District government and municipality contributions represented a small share, between 10 and 15%. In rural areas the shares were distributed somewhat differently, with the central government playing a strong supporting role to the locality and other levels of government having much smaller roles. As decentralization unfolds, the role of support from the district government should rise considerably at the expense of the central government's role.

With the IFLS data we can also examine issues of autonomy before decentralization at the puskesmas and pustu levels. Nearly 10% of puskesmas did not have their own budgets, probably because the health *dinas* directly controlled it. Most pustus had their budgets controlled by the puskesmas. Of those puskesmas that do have budgets, nearly 60% of funds in 2000 came from JPS funds and another 17% from patients. The rest came from the central government, from non-JPS funds or from the *dinas*. Pustus with their own budgets largely got their resources from patients.

It is clear that the puskesmas as the health service organizational unit did not enjoy much discretion even over its operational activities. Most of decisions on various issues related to health service delivery were made by other institutions, particularly by the health *dinas*. A key question is whether the implementation of regional autonomy will provide more power to the puskesmas to manage their own affairs, particularly in delivering health services. A related issues for future work is whether the

puskesmas as well as *dinas* staff be able to make decisions efficiently and equitably, if they have more power to manage their own affairs under decentralization.

Regarding education, baseline results indicate that school management still had very limited access to decision-making processes before decentralization began. In hiring teachers, for example, school principals mostly were not involved. The education *dinas* made decisions on teacher recruitment, particularly for primary schools. For junior and senior secondary schools, schools had some involvement in teacher recruitment. For private schools, private foundations had a dominant role in teacher recruitment. The private schools themselves had some role in recruitment, though to only a limited extent.

The same pattern held for decisions regarding teacher salary. Junior and senior secondary schools had very limited involvement in deciding teacher salaries. The education *dinas* and private foundations dominated the decision-making on this dimension. Private foundations tended to make salary decisions for private schools at the primary and senior secondary school levels. Curricula decisions were even more centralized, although for book purchases the schools did have more input into decisions.

The fact that both health and school management had very limited access to decision-making processes regarding their services raises some issues about the future effects of regional autonomy on health and educational development in the country. As the implementation of regional autonomy progresses, it is expected that health facilities and schools will enjoy more rooms to manage their own affairs and to respond to public needs. If the shift of power stops at the *dinas* level, puskesmas and schools will still struggle for power that could be helpful to improve their services. Therefore, the effects of implementation of regional autonomy on increases in health and educational system responsiveness are still unclear. The domination of the *dinas* in decision-making does not create a conducive environment for the implementation of facility-based management. For instance, the government of Indonesia has initiated the introduction of school-based management for its schools in all levels, from primary to senior secondary schools. This policy will require the district governments to shift the power to manage schools from education *dinas* to the schools themselves.

Conclusions

As of late 2000, almost three years after the economic crisis began, individuals in the IFLS data do not appear to be substantially worse off compared to immediately before the crisis in late 1997, in terms of various dimensions of their standard of living. Indeed, perhaps surprisingly, many people now seem a little better off, at least in terms of lower levels of poverty and higher percapita expenditure. Of course this masks the volatile changes that many had in the interim period. For example, poverty rates rose substantially and percapita expenditure fell between late 1997 and early 1999. Wages of self-employed workers and government workers have returned to their 1997 levels, after having fallen drastically just after the crisis began. Private sector wages are still 10% below what they were in late 1997, although they have rebounded from a 35% deficit in late 1998.

Focusing on the poor, it is interesting to note that levels of expenditure have recovered to pre-crisis levels. Moreover we observe considerable movement into and out of poverty, with half the poor in 1997 moving out of poverty by 2000, and half the poor in 2000 were not in 1997.

One important lesson learned from this experience is that it is incomplete to look only at incomes or expenditures. We see that labor supply has increased from 1997 and 2000, especially among women who are now much more likely to be working as self-employed or as unpaid employees in family businesses. To the extent that leisure or time at home is substituted away from, this may represent a loss in welfare.

In terms of schooling of the young, despite initial declines in enrollment among the poor in 1998, by 2000 enrollment rates showed no marked decline compared to 1997. For child health, a key measure of child health in the long-run, child height, improved over this period. This strongly suggests that the long-run health of children did not deteriorate during the crisis. There is some suggestion that hemoglobin levels fell for young boys, which may indicate a decline in micronutrient intakes. Among adults, there is little indication of a major change in health status from 1997 to 2000, despite evidence finding some increase in undernutrition of the elderly from 1997 to 1998.

Health care utilization stayed roughly constant for adults. For children, utilization of puskesmas was unchanged, but use of posyandu fell dramatically. Consistent with this reduction in use, service availability in posyandu and various dimensions of service quality fell sharply over this period. Since health outcomes of children did not seem to suffer, and indeed improved in some dimensions, the role of the posyandu should be further evaluated. For puskesmas, there was not evidence of any decline in the availability of service or in service quality. If anything, there is evidence of some improvement, especially for immunization, which rose sharply. Family planning supplies at public providers declined over this period, and there is evidence that women switched their source of supplies for contraceptives from the public to the private sector. Despite this, however, contraceptive use changed very little.

In response to the crisis, there were a series of publicly provided safety net programs that were initiated or reconfigured after 1998. Some of these reached many communities and some were targeted towards the poor. On balance, the assistance received by the poor seems to have been extremely small, especially for the rice subsidy program. In addition, many poor were not reached and there was considerable leakage to the non-poor.

We have also found, not surprisingly, that prior to the decentralization begun in 2001, localities had very limited control over budgets and key decisions made for public health facilities and schools were largely out of control of their staff. For public health facilities and schools, there is an issue that the full promise of decentralization may not be realized even if control becomes localized to district *dinas*, if the facilities themselves do not get control at least over some operational questions.

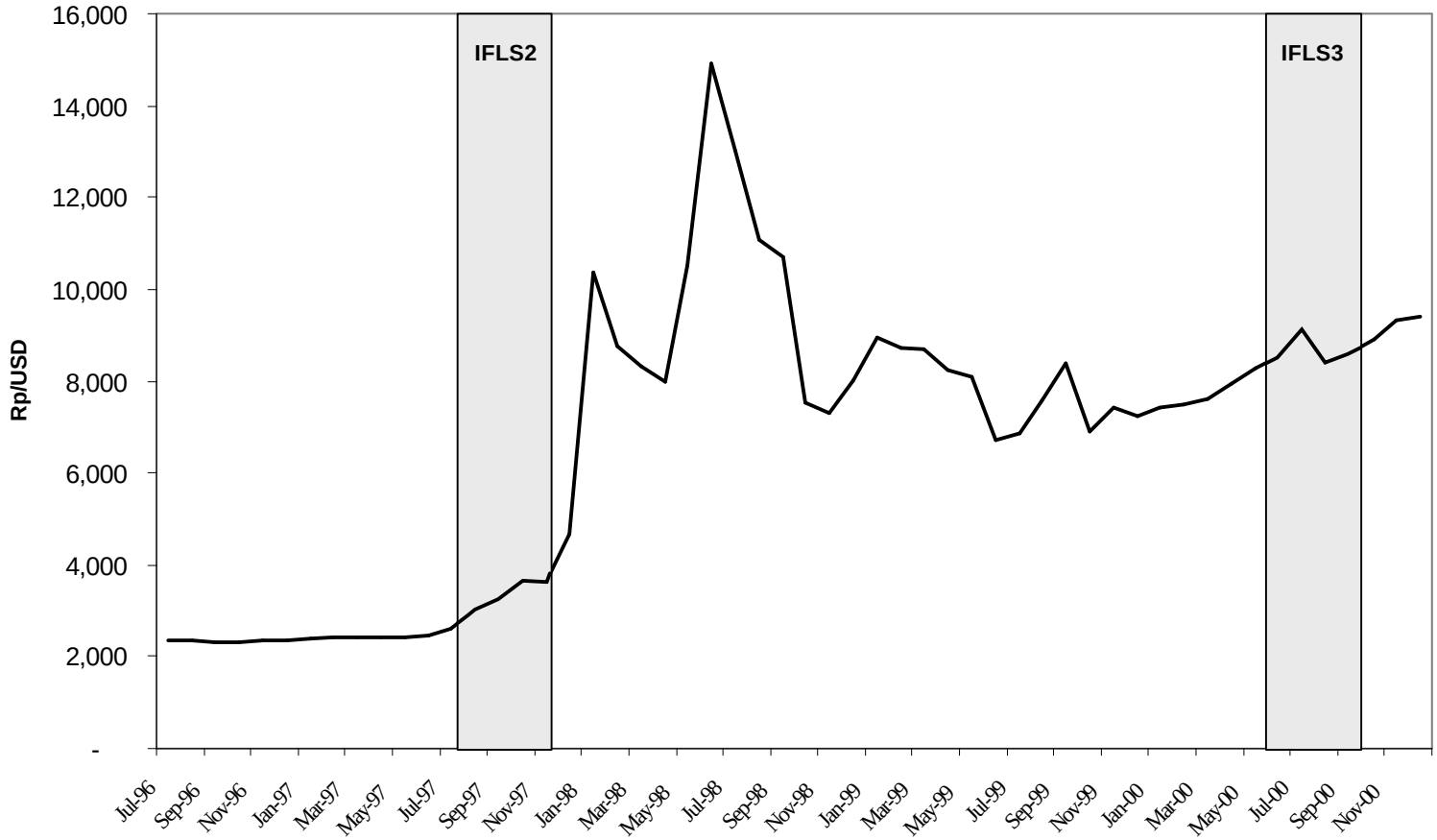
Taking a longer view, it is certainly the case that living conditions of people in Indonesia have improved substantially since 1960. The economic crisis has interrupted that progress, although in this examination of how individuals fared between 1997 and 2000, we do not quantify the crisis impact on longer term movements of welfare. This needs to be emphasized, because it is possible that failure to find strong overall negative impacts between 1997 and 2000 may be masking the possibility that the crisis did affect the trend. Future research needs to address that possibility.

In addition, it needs to be emphasized that while we focused on the changes over the 1997-2000 period, that often masks serious issues related to continued low living standards for many Indonesians. A good example is the large chasm that remains in order to achieve the levels of child health set by international standards. As we have argued, child heights, weight-for-heights and hemoglobin levels are very low, both before and after the crisis. This reflects continued poor health outcomes, especially during the formative period before age 5 (though, again, clearly much better than in generations past). For adults, behaviors that greatly raise the risk of cardiovascular disease and other chronic diseases are highly prevalent and these problems are likely to become more pronounced in Indonesia as economic progress is restarted.

In sum, these results present a very heterogeneous picture of the economic and social environment. The last three years have shown a tremendous resiliency of the Indonesian population. Although predictions of catastrophic outcomes were not observed, there were some serious short-term dislocations to some people.

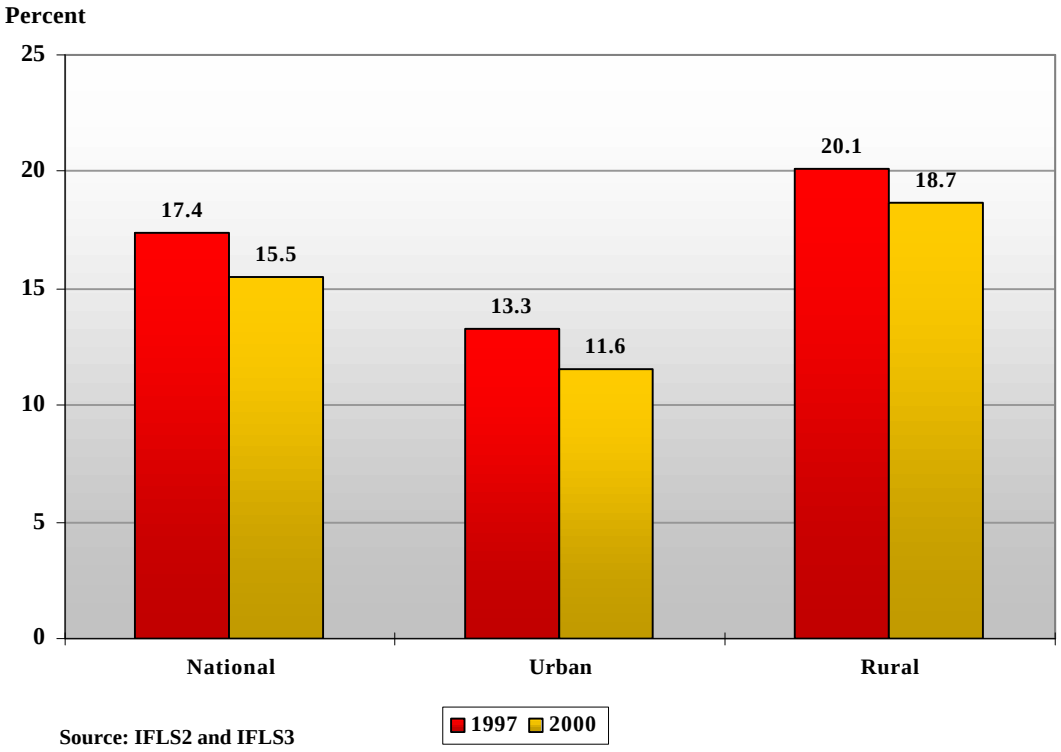
One important lesson that the Indonesian experience teaches us is the need for continual and relatively frequent monitoring of living standards. This is a point that is not sufficiently appreciated in the literature. Even the three years between waves of the IFLS would have been too long to have measured important dislocations that occurred between late 1997 and early 1999. Fortunately the special IFLS2+ wave in 1998 along with frequent rounds of SUSENAS and other rich data sources enable policy makers and researchers to fill in many of the blanks for Indonesia. Most countries are not nearly so well-endowed with the necessary data.

Figure 1. Timing of the IFLS and the Rp/USD Exchange Rate



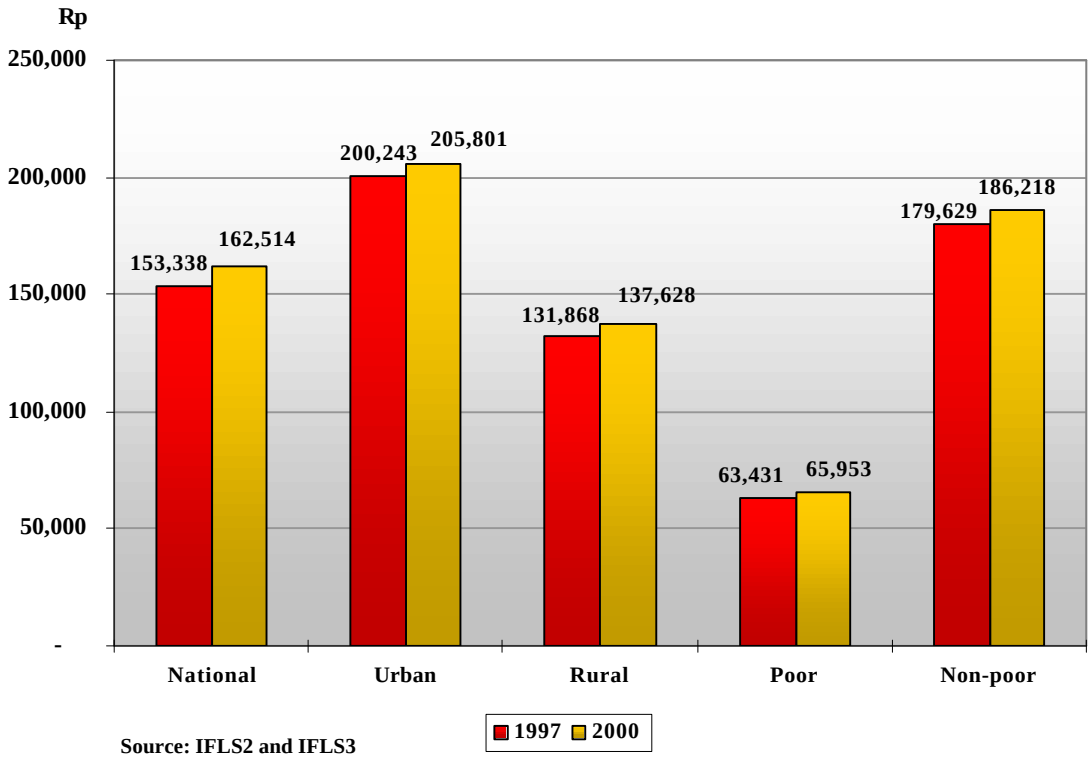
Source: Pacific Exchange Rate Service http://pacific.commerce.ubc.ca.xr/

Figure 2. Percent of Individuals Living in Poverty, 1997 and 2000



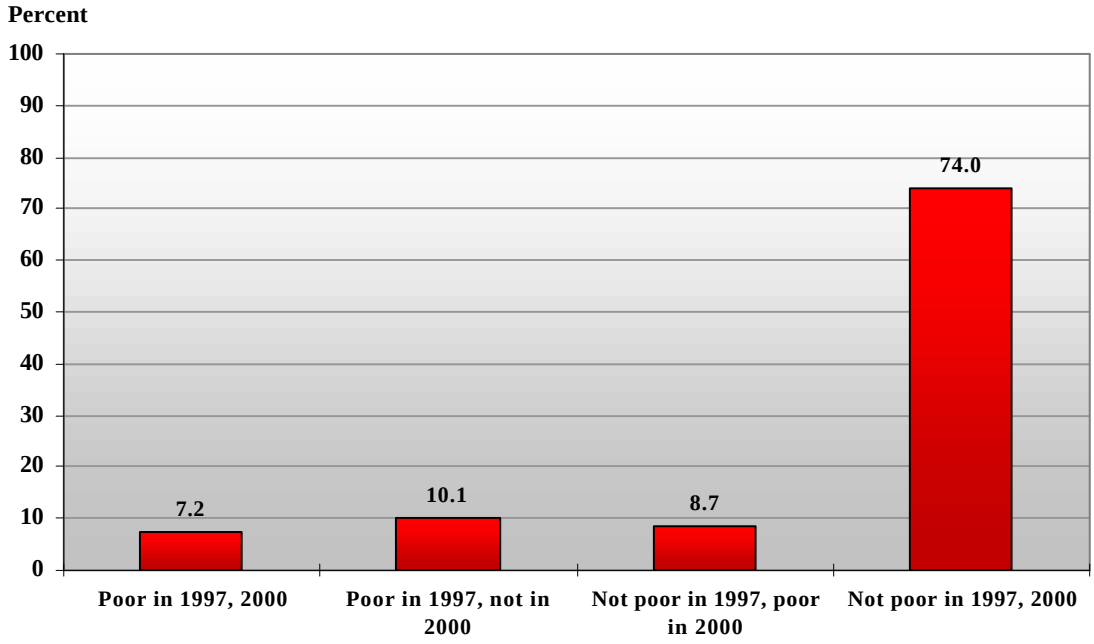
Source: IFLS2 and IFLS3

Figure 3. Median Per Capita Expenditure (Rp) , 1997 and 2000



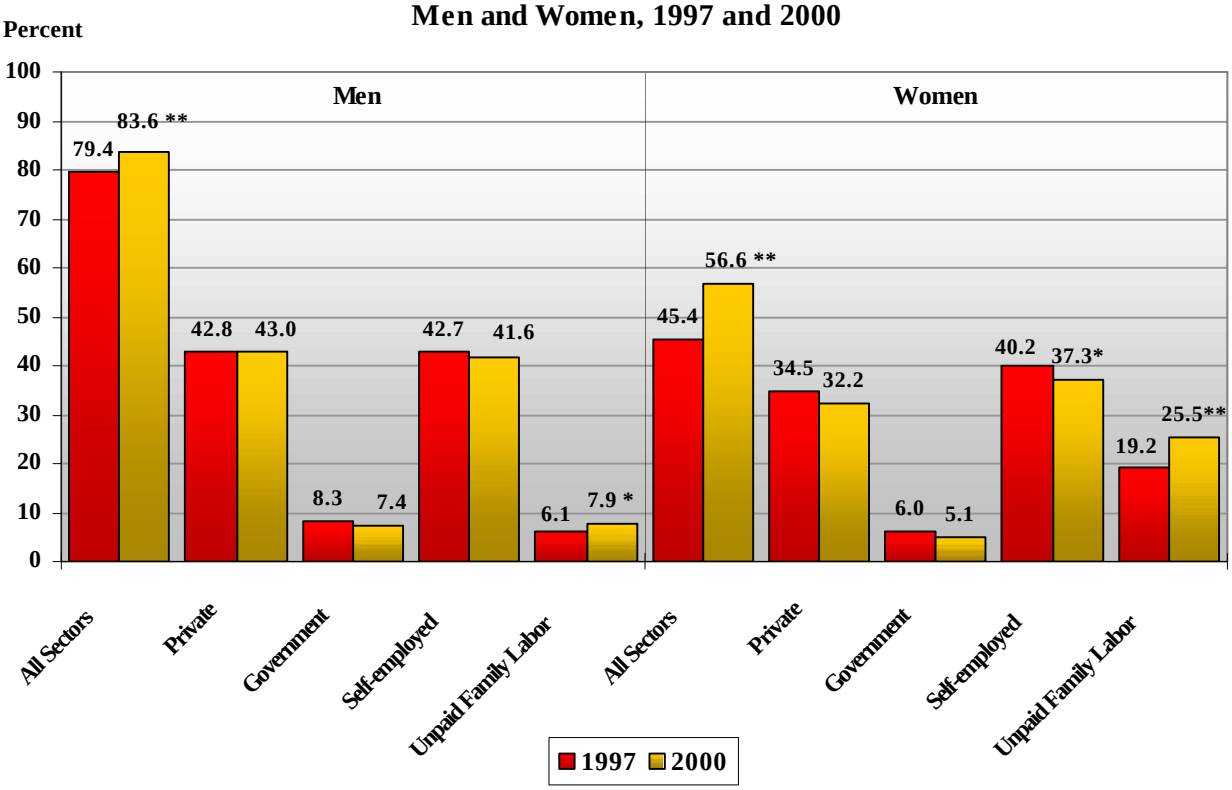
Source: IFLS2 and IFLS3

Figure 4. Transition In/Out of Poverty, 1997 and 2000



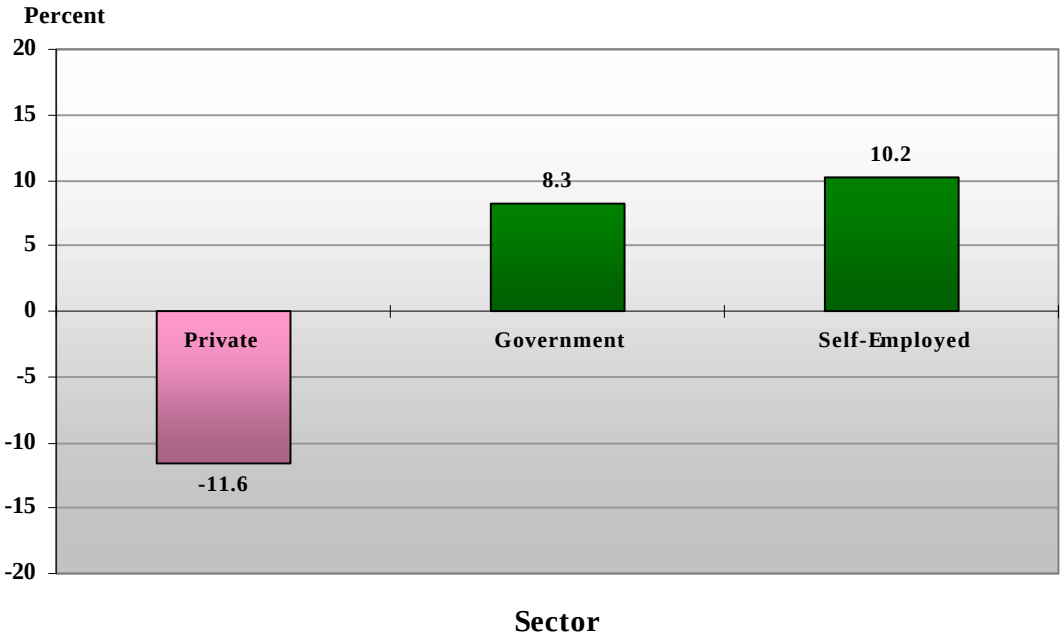
Source: IFLS2 and IFLS3

Figure 5. Overall and Sectoral Breakdown of Employment Rates Men and Women, 1997 and 2000



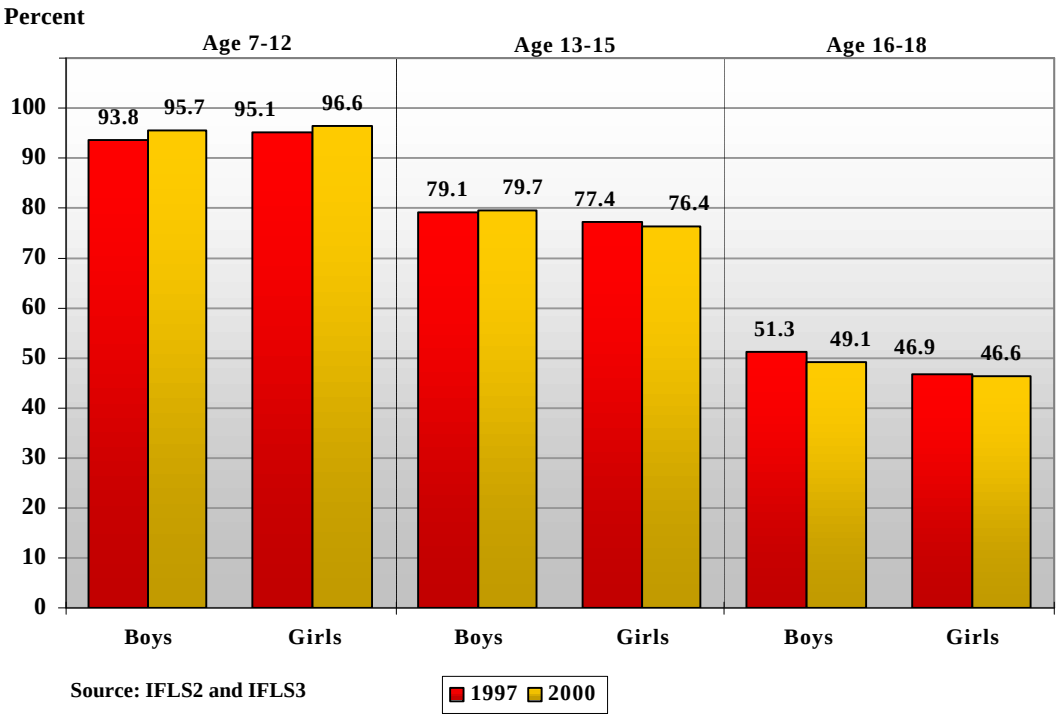
Source: IFLS2 and IFLS3
Significant changes between 1997 and 2000 at 1% (**) and 5% (*) are indicated

Figure 6. Change in Median Wage by Sector, 1997 and 2000



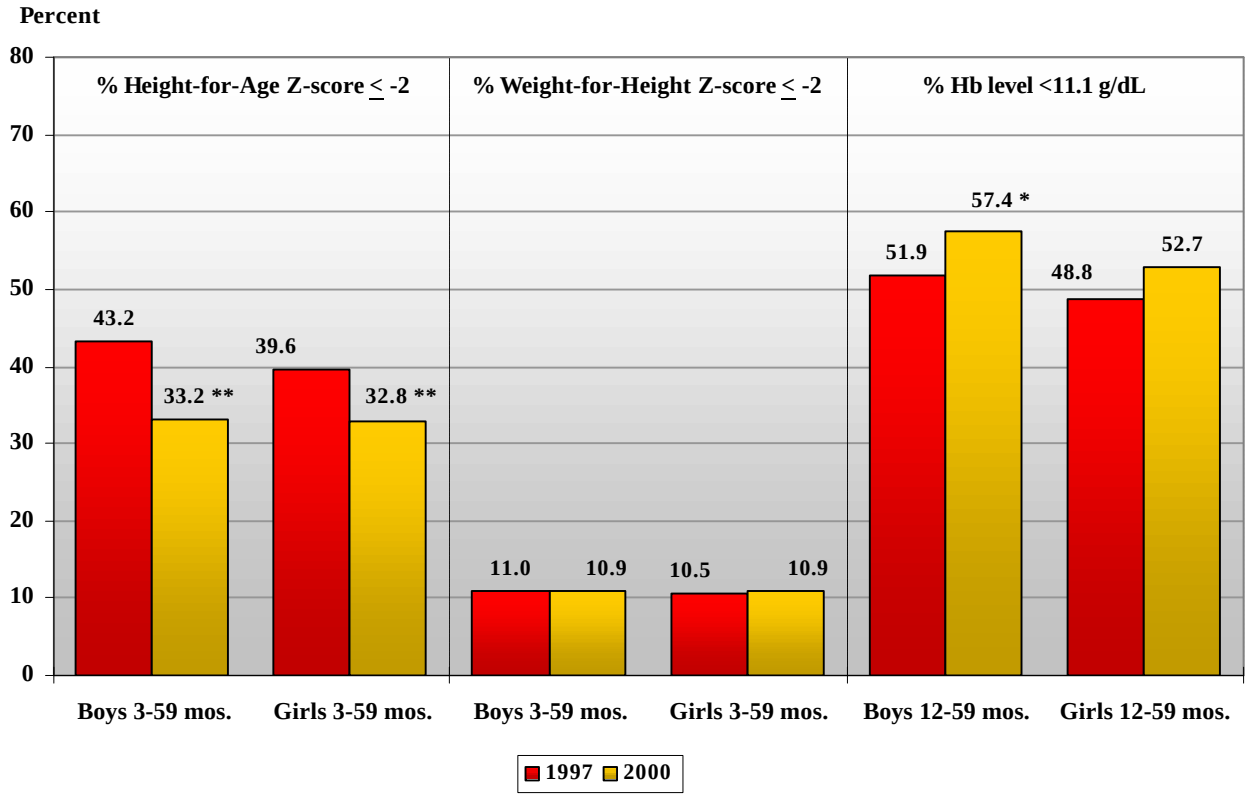
Source: IFLS2 and IFLS3

Figure 7. School Enrollment Rate , 1997 and 2000



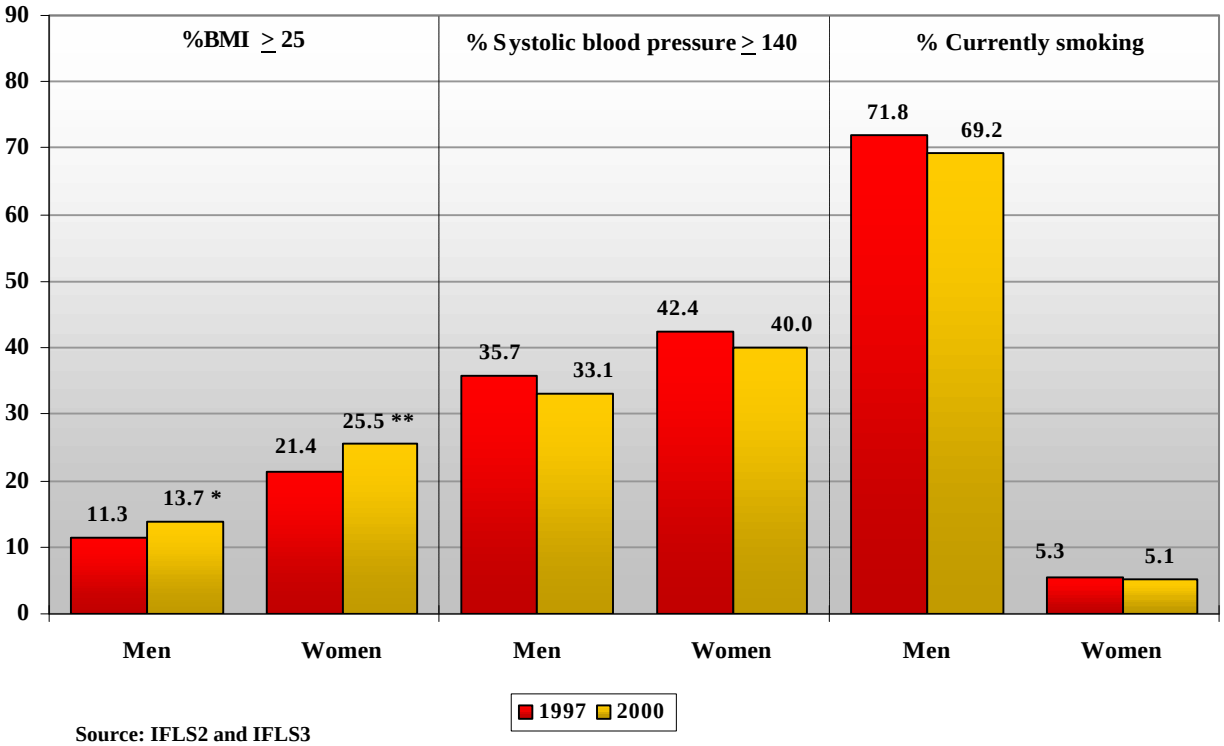
Source: IFLS2 and IFLS3

Figure 8. Preschool Child Health Outcomes , 1997 and 2000



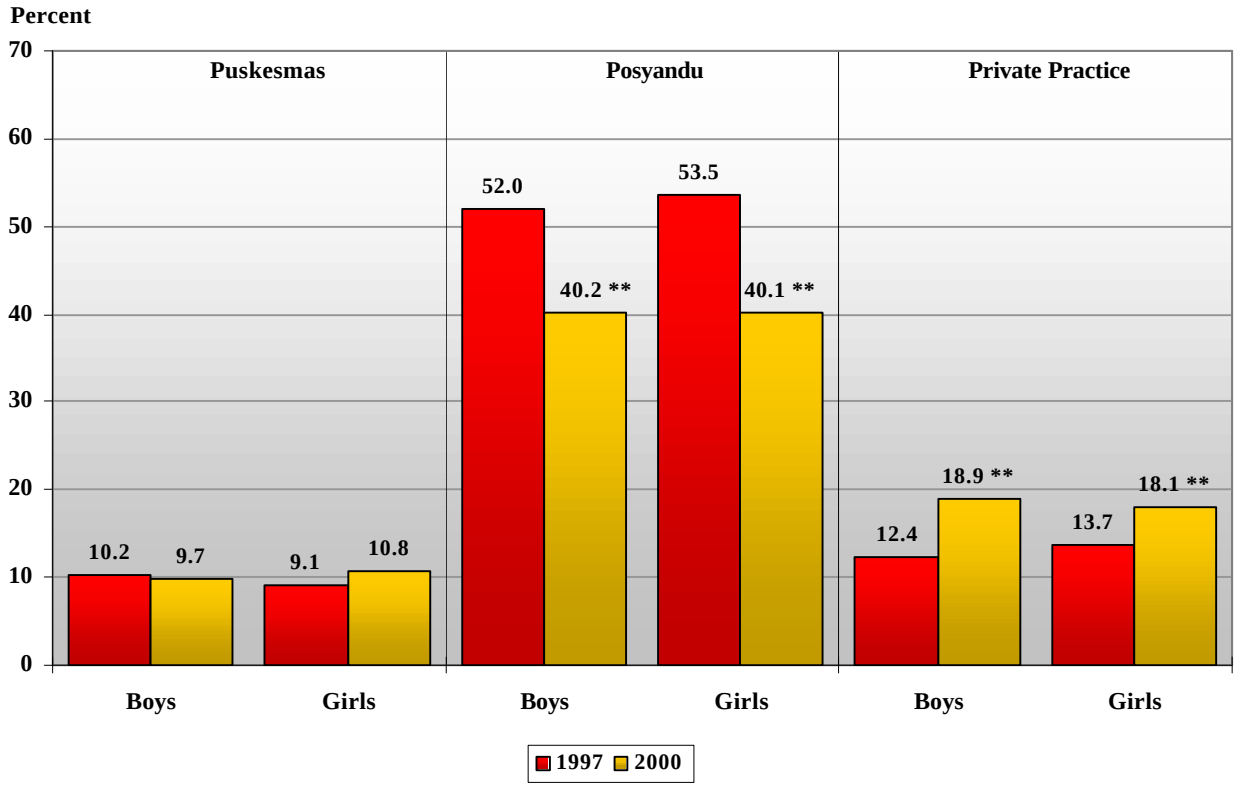
Source: IFLS2 and IFLS3
Significant changes between 1997 and 2000 at 1% (**) and 5% (*) are indicated

Figure 9. Adult Health Risk Factors, Men and Women 40 and Above, 1997 and 2000



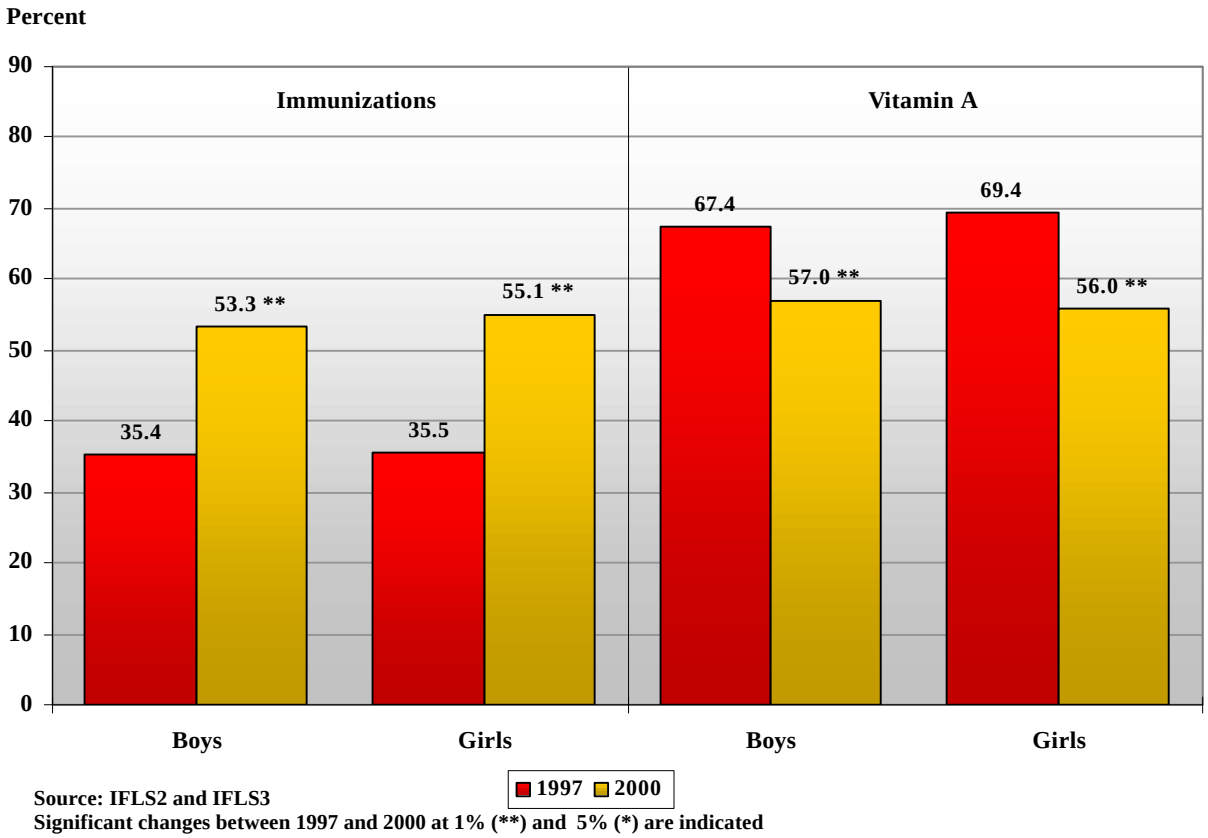
Source: IFLS2 and IFLS3
Significant changes between 1997 and 2000 at 1% (**) and 5% (*) are indicated

Figure 10. Health Care Utilization by Children 0-59 Months, 1997 and 2000



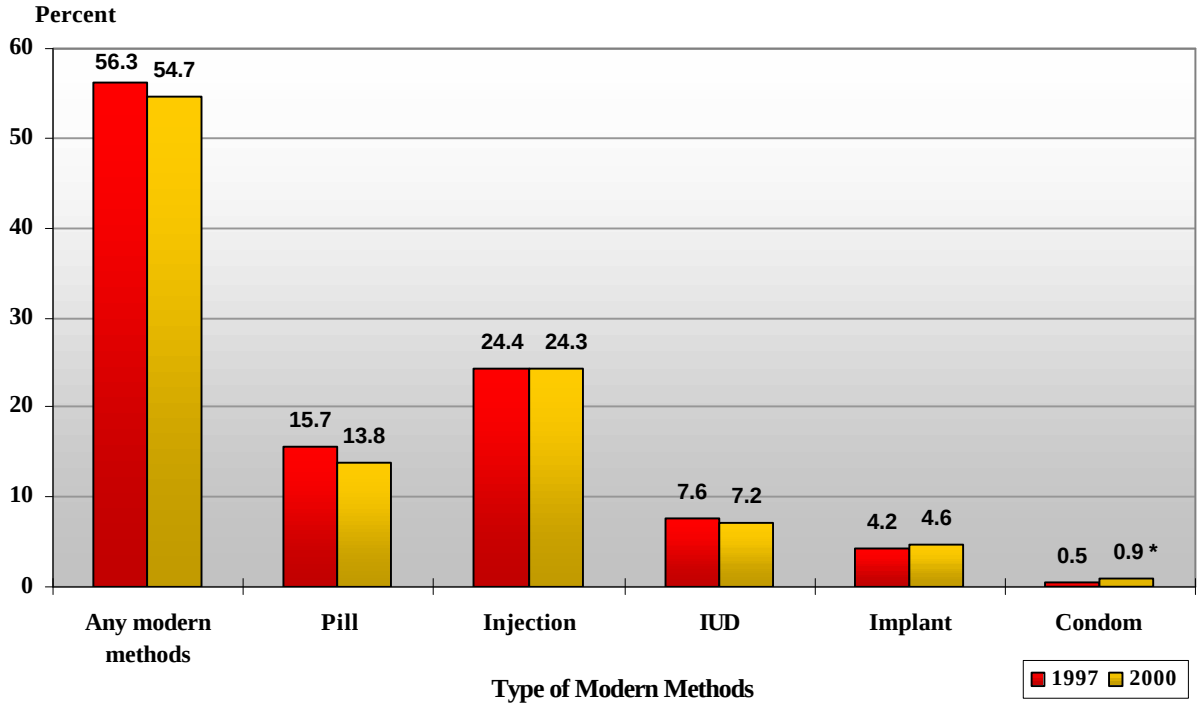
Source: IFLS2 and IFLS3
Significant changes between 1997 and 2000 at 1% (**) and 5% (*) are indicated

Figure 11. Immunization and Vitamin A Uptake, Children 12-59 Months, 1997 and 2000



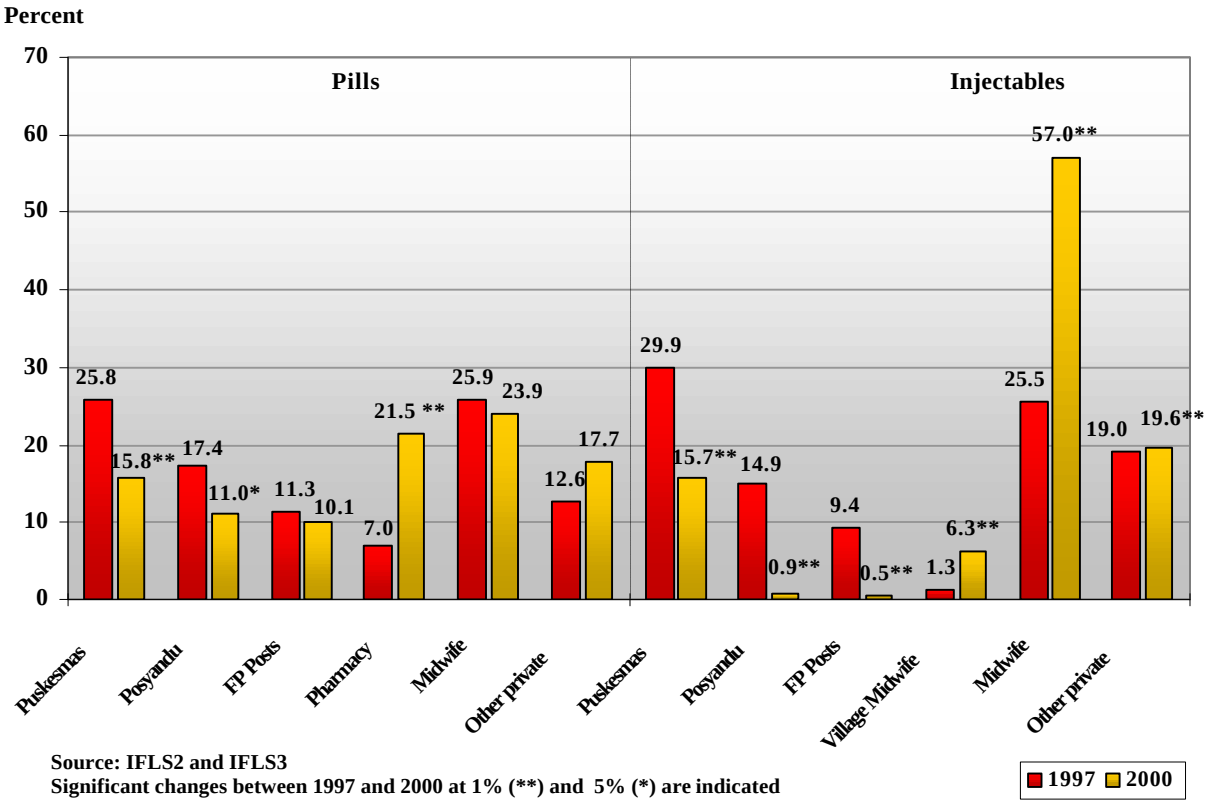
Source: IFLS2 and IFLS3
Significant changes between 1997 and 2000 at 1% (**) and 5% (*) are indicated

Figure 12. Methods of Contraceptive by Currently Married Women Aged 15-49, 1997 and 2000



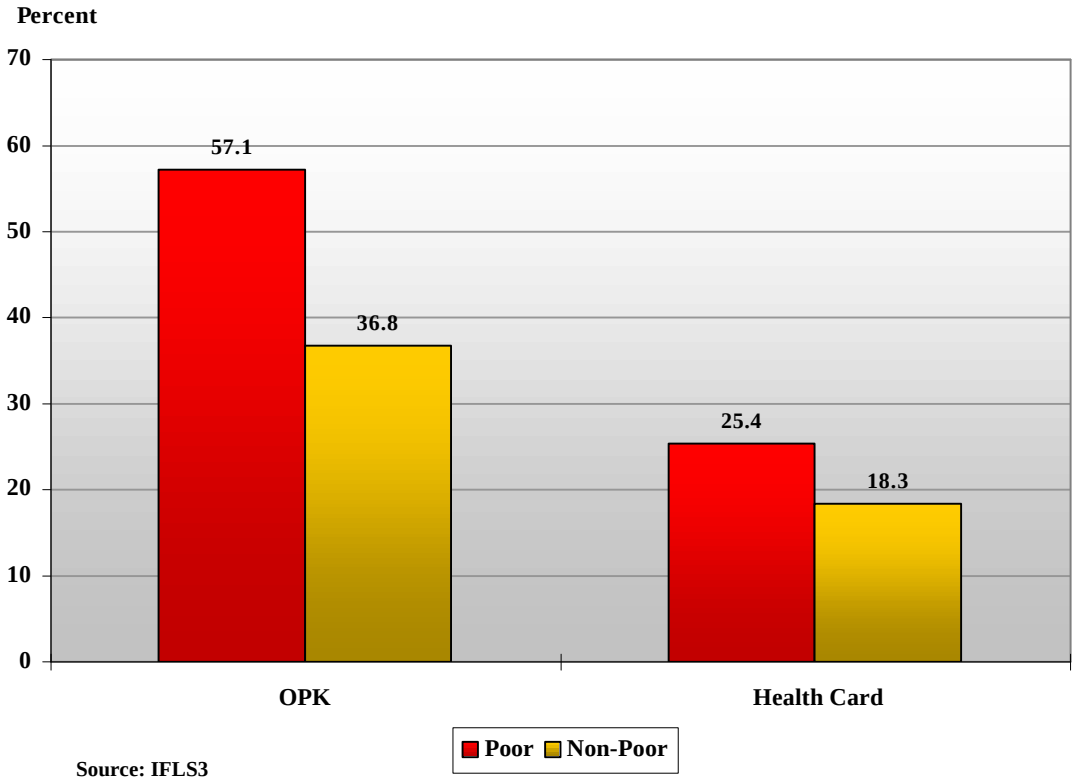
Source: IFLS2 and IFLS3
Significant changes between 1997 and 2000 at 1% (**) and 5% (*) are indicated

Figure 13. Source of Contraceptive Supplies Among Pill and Injection Users, Currently Married Women Aged 15-49, 1997 and 2000



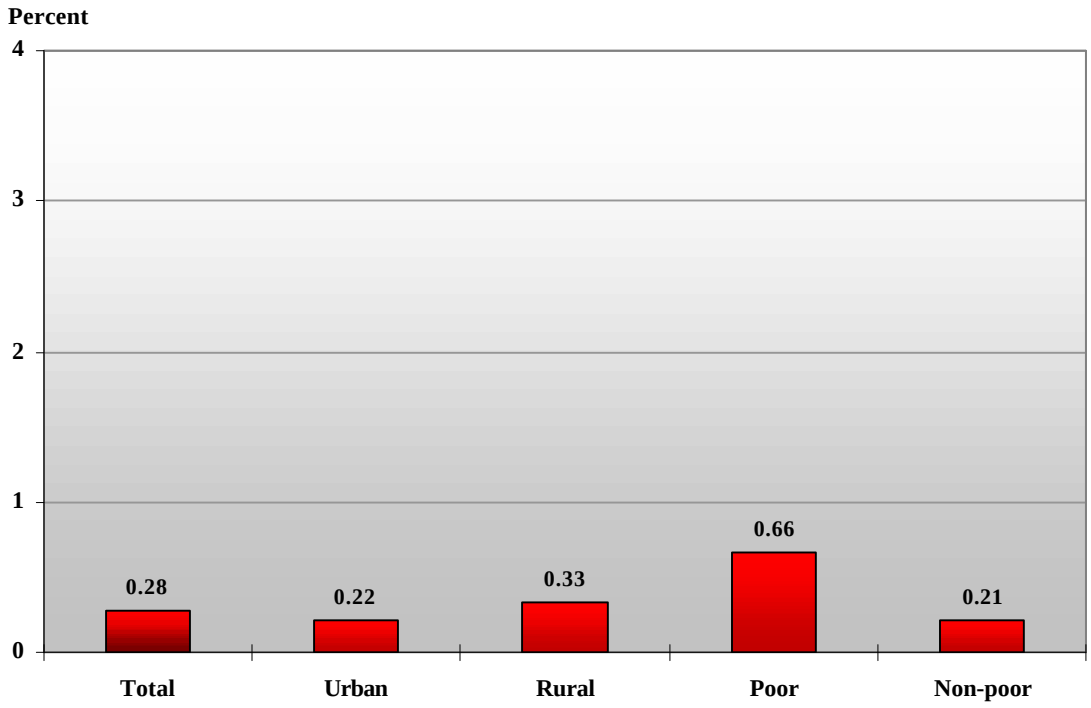
Source: IFLS2 and IFLS3
Significant changes between 1997 and 2000 at 1% (**) and 5% (*) are indicated

Figure 14. JPS: OPK and Health Card Receipt in 2000, Poor and Non-poor



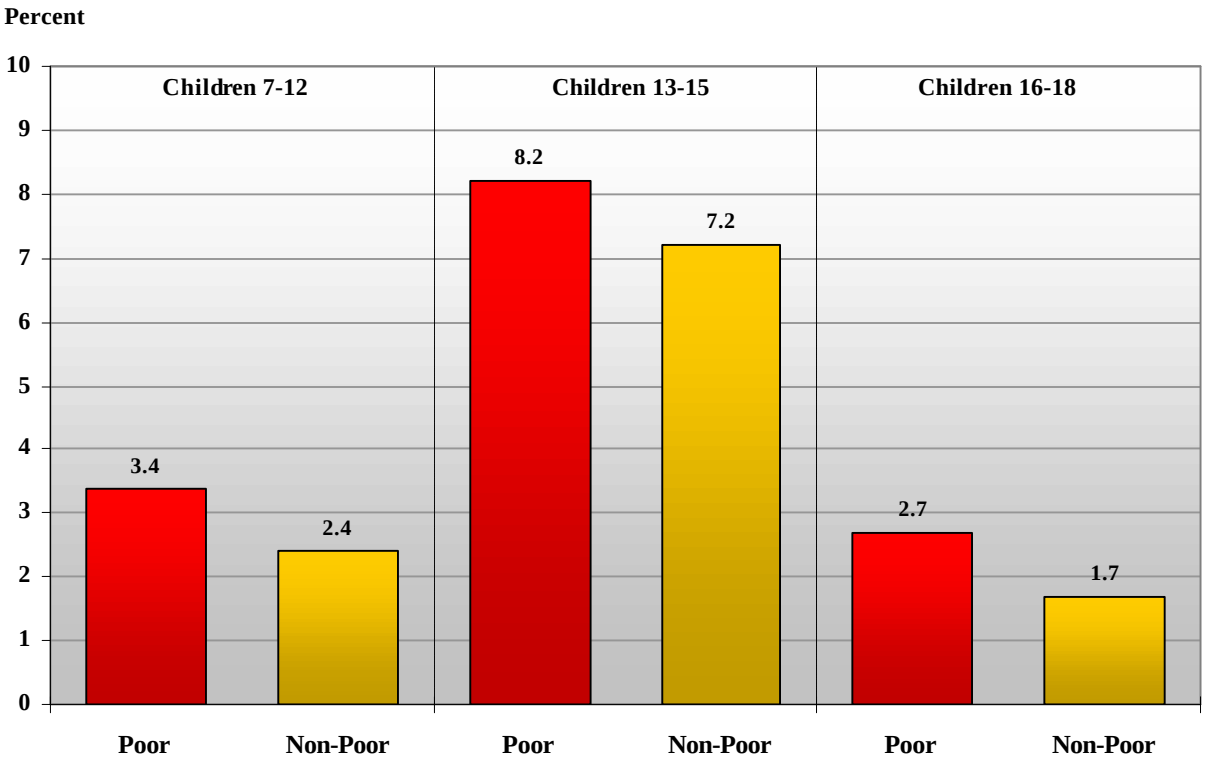
Source: IFLS3

Figure 15. OPK Subsidy as % of Per Capita Expenditure, 2000



Source: IFLS3

Figure 16. Receipt of Government Assistance for School Among Enrolled Students, School Year 2000/2001



Source: IFLS3